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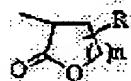
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## (54) ACID-SENSITIVE POLYMER, RESIST COMPOSITION, FORMATION OF RESIST PATTERN AND PRODUCTION OF SEMICONDUCTOR DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain the subject polymer, having practicable sensitivity and capable of forming a fine pattern without swelling and peeling at a low cost by including a specific lactone structure as a protective group of carboxyl group in the side chain of a resin and an additional acidic functional group having a protective group unstable to acids in the side chain of the resin.

SOLUTION: This polymer is capable of forming a coating film insoluble in a basic aqueous solution and is obtained by including a lactone structure (especially 2-hydroxy- $\gamma$ -butyrolactone) of formula I [(n) is a number of 1-4; R is H, an alkyl, etc.], as a protective group of carboxyl group in the side chain and further an additional acidic functional group, unstable to acids and having carboxyl group containing a protective group represented by, e.g. formula II [R1 is a (substituted) 1-4C alkyl; Z is plural atoms required to complete an alicyclic hydrocarbon group together with C combined with R1] in the side chain.



I



II

## LEGAL STATUS

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